



State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

April 16, 2015

Nick Baird
TM Crushing LLC
P.O. Box 437
Lehi, Utah 84043

Subject: Initial Review of Notice of Intention to Commence Large Mining Operations, TM Crushing LLC, Talons Cove Mine, M/049/0091, Utah County, Utah

Dear Mr. Baird:

The Division of Oil, Gas and Mining has completed a review of the referenced Notice of Intention to Commence Large Mining Operations (Notice) which was received March 26, 2015. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages using redline and strikeout text. After the Notice is determined technically complete, the Division will request two clean copies of the complete and corrected plan. Upon final approval, the Division will stamp both copies approved and return one for your records.

Please submit your response to this review by May 26, 2015.

The Division will suspend further review of the Notice of Intention until receiving your response to this review. Please contact April Abate at 801-538-5214 or me at 801-538-5261 if you have questions about the review or if you would like to schedule a meeting to discuss the comments. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB:aa:mj
Attachment: Review
o:\m049-utah\m0490091-talon'scove\final\rev-6555-04152015.doc



**INITIAL REVIEW OF NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS**

**TM Crushing, LLC
Talon's Cove Mine
M/049/0091
April 16, 2015**

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	General	The submittal should be formatted to easily incorporate additional revisions and amendments. (No response needed.)	aa	
2	General	The Division may generate additional comments based on information received in the future. (No response needed.)	aa	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
3	105.2, 105.3, 105.3a, 105.5	It was difficult to see most of the features on these maps. It is suggested that the elevation contours on the maps be removed so the boundaries, soil stockpiles, operations area, and reclaimed areas will be more visible.	aa	

105.2 - Surface facilities map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
4	105.2	Please clearly identify the location of the ephemeral channel to the north/northeast of the property. Also show where the berm protecting the channel, as described in Section 107.2, will be placed relative to the channel.	aa	
5	105.2	Please label the sediment retention basins on this map.	aa	

R647-4-110 - Reclamation Plan

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
6	Section 110.2 Reclamation of roads	In Section 110.2 Reclamation of Roads, the Notice says roads to be removed will be reclaimed by grading the roads to blend with surrounding topography and distributing and scarifying scavenged topsoil and biosolids to leave a roughened surface. There is nothing in the reclamation cost estimate that specifically addresses road reclamation. Please include road reclamation as a line item in the reclamation cost estimate.	whw	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
7	Section 110.2 Reclamation of high walls	In Section 110.2, Reclamation of High Walls, the Notice says slopes will be left no steeper than 2H:1V. In the reclamation cost estimate there is one line item for regrading. The total amount of material to be regraded is 267,975 cubic yards. In Section 110.5 Re-vegetation planting program and topsoil distribution a) Soil Material Replacement, the Notice says the total volume of soil to be distributed is approximately 267,975 cubic yards. Based on this information it appears the line item for regrading is for topsoil only and does not include grading to get slopes to a 2H:1V slope. Please include the cost to regrade slopes to 2H:1V as a line item.	whw	
8	Section 110.5 Re-vegetation planting program and topsoil distribution a) Soil Material Replacement	In Section 110.5 Re-vegetation planting program and topsoil distribution a) Soil Material Replacement, the Notice says the total volume of soil to be distributed is approximately 267,975 yd ³ . In the reclamation cost estimate, the Notice says there is a regrading factor of 0.25. Please explain why the regrading factor of 0.25 is used in the text.	whw	
9	Section 110.2 Reclamation of waste dumps, shafts and adits, tailings areas and leach pads	In Section 110.2 Reclamation of waste dumps, shafts and adits, tailings areas and leach pads, the Notice says waste rock will be used during reclamation. Please include the placement of waste rock as a line item in the reclamation cost estimate.	whw	
10	Section 110.2 Reclamation of impoundments, pits and ponds	In Section 110.2 Reclamation of impoundments, pits and ponds, the Notice says natural drainage patterns will be re-established to conduct runoff through the site. Please include re-establishing drainage patterns as a line item in the bond calculations.	whw	
11	110.2	Please review the information discussed in this section regarding the reclamation of impoundments. Two water retention ponds will be located near the entrance to the mine. However, the reclamation plan narrative states that no impoundments will be used for capturing stormwater or process water at reclamation. If retention ponds will remain at reclamation they should be shown on a map, such as 105.3. If ponds are to be removed, how will stormwater be managed at reclamation? Show on one of the maps, such as 105.3, how drainage patterns will be reestablished at reclamation.	aa	

110.3 - Description of facilities to be left (post mining use)

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
12	Section 110.3 Surface facilities to be left	In Section 110.3 Surface facilities to be left, the Notice says all surface facilities on site will be removed prior to final reclamation. While demolition is listed in the summary bond calculation sheet, there is no detailed worksheet for demolition. Please provide a detailed worksheet showing demolition costs.	whw	

110.5 - Revegetation planting program

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
13	Page 23	The Division suggests that the reclamation seed mix be revised to more closely align with the pre-mining vegetation. Recommended changes include adding sheep fescue (<i>Festuca ovina</i>) at a rate of 0.5 lbs PLS/acre, and reducing the seeding rates of Indian rice grass (<i>Oryzopsis hymenoides</i>) and fourwing saltbush (<i>Atriplex canescens</i>) to 1.0 lbs PLS/acre each.	lk	

R647-4-113 – Surety

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
14	Bond Summary Sheet	Summary Sheet: The total cost is given in 2010 dollars. According to the information in the reference section, costs were based on 2014 sources. Please state the total cost in 2014 and show the escalation date as 2019.	whw	
15	Earthwork Sheet	Earthwork Sheet, Regrading with a Dozer: The Notice includes a line item for regrading. The production rate for regrading is 147 lcy/hour. The only worksheet that shows a production rate of 147 lcy/hour is for leveling and spreading 228,610 cubic yards of topsoil. The description in the worksheet is to push topsoil from the area where the loader dumped it to various locations across the reclaimed area. Push distance should not exceed 500 feet. Please include a worksheet for regrading slopes to 2H: 1V.	whw	
16	Earthwork Sheet	Earthwork Sheet, Relocate topsoil with dozer and Spread topsoil with a dozer: Both worksheets describe the work as pushing topsoil from areas where the loader dumped it to various locations across the reclaimed areas. Push distances should not exceed 500 feet. This appears to be describing the same process. If there are two separate processes please clarify the difference.	whw	
17	Earthwork Sheet	Earthwork Sheet, Rip floor with a dozer: There is no mention in the reclamation plan of ripping the floor. Please state in the reclamation section what areas will be ripped and to what depth.	whw	
18	Earthwork Sheet	Earthwork Sheet, Rip floor with a dozer: The amount of material to be ripped is 267,975 lcy which is the same volume as the topsoil that will be redistributed. Ripping compact areas such as the pit floor and roads should be to a depth of at least 18 inches to provide for proper root penetration. Please clarify the amount of material to be ripped.	whw	

Initial Review
Page 5 of 5
M/049/0091
April 16, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
19	Earthwork Sheet	Earthwork: In the worksheets the Notice says topsoil will be placed from stockpiles to areas where a dozer can spread the soil. There are no calculations for having the loader pick up, transport and place the topsoil. Please include costs for the loader.	whw	
20	Earthwork Sheet	Earthwork: In the worksheets the dozer is identified as a Cat D8LN. In BlueBook, the only Cat D8 is a D8T. Please use equipment that is currently in production for bond calculations.	whw	
21	Earthwork Sheet	Earthwork: In the worksheets the dozer unit cost is \$65/hour, the operating cost is \$50/hour, and the labor cost is \$50/hour. The Division was unable to duplicate the unit costs. The monthly rental rate from BlueBook is \$19,375/month. $\$19,375/\text{month}/176 \text{ hours/month} = \$110.09/\text{hour}$. The operating cost is \$100.25/hour. From Means, the monthly rental rate for a 300 hp dozer (D8 310hp) is \$16,400/month. $\$16,400/\text{month}/176 \text{ hours/month} = \$93.18/\text{hour}$. The operating cost is \$100.65/hour. Mean labor rate for an equipment operator Eqmd is \$76.75/hour. Please use either 2014 or 2015 BlueBook and Means costs.	whw	
22	Bond Calculations	Please include a worksheet for demolition costs.	whw	